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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NM-153-AD; Amendment 39-13859; AD 2004-23-04]

RIN 2120-AA64

Airworthiness Directives; Airbus Model A319 and A320 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Airbus Model A319 and A320 series airplanes, that requires a modification and replacement affecting all fuel tanks. All affected airplanes require the installation of fuses in the wiring of the fuel quantity indicating probes of all fuel tanks. Some affected airplanes also require replacement of the high-level sensors of the additional center tanks (ACTs) with new sensors. For all affected airplanes, these actions are necessary to prevent overheating of the fuel probes due to a short circuit. For some affected airplanes, these actions are necessary to prevent fuel leakage due to inadequate space for thermal expansion within the ACTs. Such conditions could result in fuel vapors or fuel contacting an ignition source and/or consequent fire/explosion in the center fuel tanks. These actions are intended to address the identified unsafe condition.

DATES: Effective December 20, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 20, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Airbus, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

FOR FURTHER INFORMATION CONTACT: Dan Rodina, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2125; fax (425) 227-1149.

Relationship of This AD to SFAR 88

The FAA has examined the underlying safety issues involved in recent fuel tank explosions on several large transport airplanes, including the adequacy of existing regulations, the service history of airplanes subject to those regulations, and existing maintenance practices for fuel tank systems. As a result of those findings, we issued a regulation titled "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements" (67 FR 23086, May 7, 2001). In addition to new airworthiness standards for transport airplanes and new maintenance requirements, this rule included Special Federal Aviation Regulation No. 88 (SFAR 88).

Among other actions, SFAR 88 requires certain type design (i.e., type certificate (TC) and supplemental type certificate (STC)) holders to substantiate that their fuel tank systems can prevent ignition sources in the fuel tanks. This requirement applies to type design holders for large turbine-powered transport airplanes and for subsequent modifications to those airplanes. It requires them to perform design reviews and to develop design changes and maintenance procedures if their designs do not meet the new fuel tank safety standards. As explained in the preamble to the rule, we intended to adopt airworthiness directives to mandate any changes found necessary to address unsafe conditions identified as a result of these reviews.

In evaluating these design reviews, we have established four criteria intended to define the unsafe conditions associated with fuel tank systems that require corrective actions. The percentage of operating time during which fuel tanks are exposed to flammable conditions is one of these criteria. The other three criteria address the failure types under evaluation: single failures, single failures in combination with another latent condition(s), and in-service failure experience. For all four criteria, the evaluations included consideration of previous actions taken that may mitigate the need for further action.

Based on this process, we have determined that the actions identified in this AD are necessary to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

Proposed AD

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Airbus Model A319 and A320 series airplanes was published in the Federal Register on November 17, 2003 (68 FR 64823). That action proposed to require a modification and replacement affecting the center and wing fuel tanks. All affected airplanes would require modification of the wiring of the fuel quantity indicating probes of the center and wing fuel tanks. Some affected airplanes would also require replacement of the high-level sensors of the additional center fuel tank with new, improved sensors.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Supportive Comments

One commenter supports the proposed AD; one commenter supports the intent of the proposed AD.

Requests To Extend Compliance Time

One commenter notes a large disparity between the two limitations in the proposed accomplishment time of "Within 4,000 flight hours or 30 months after the effective date of the AD, whichever is first." The commenter suggests that the FAA consider changing the timeline to flight hours or a calendar month, which is more closely tied to actual airplane utilization. The commenter adds that utilization of these airplanes could be as high as 9,000 flight hours during the proposed 30-month compliance time. The commenter asks that the compliance time be changed to 9,000 flight hours or 30 months, whichever is first. Another commenter also recommends that the compliance time be changed to 9,000 flight hours or 30 months, whichever is first, and provided no justification for the recommendation.

A third commenter states that, based on airplane utilization, the flight-hour threshold will occur first, and result in a 14-month schedule for completion. The commenter adds that, based on the instructions outlined in Airbus Service Bulletin A320-28-1087, accomplishment of the actions is possible only during a base maintenance visit. The commenter notes that the compliance limits will penalize operators with long-to-medium-range missions. The commenter recommends that the compliance time be extended to 5,500 flight hours or 30 months after the effective date of the AD, whichever occurs first. The commenter states that this will allow operators to utilize routine base maintenance visit opportunities where appropriate tooling, ground equipment, and qualified skill set are available.

A fourth commenter states that including a flight-hour limit in the compliance time suggests that the failure mode being addressed by the mandatory activity is sensitive to flight hours in service. The commenter notes that the failure mode addressed by Service Bulletin A320-28-1087 (wiring insulation breakdown/damage) is primarily related to calendar age. The commenter adds that, while the flight-hour limit may have value, it is not the crucial parameter. The commenter's in-service airplanes average about eight hours of flying per day, which means that the 4,000-flight-hour limit would require that the actions be done on all affected airplanes within about 500 days. This period is 55 percent of the calendar time afforded by the compliance time, and is less than the C-check interval. The commenter states that doing the actions on all airplanes within 4,000 flight hours would put an additional burden and cost on its operation. The commenter suggests extending the compliance time to 6,000 flight hours, which will not compromise the level of safety.

We do not agree with the commenters. In developing an appropriate compliance time for this action, we considered the safety implications, operators' normal maintenance schedules, and the compliance time recommended by the airplane manufacturer for the timely accomplishment of the required actions. The compliance time is based on airplane utilization overall. In addition, operators provided no data to support that a compliance time extension will ensure safety. In consideration of these items, we have determined that compliance within 4,000 flight hours or 30 months after the effective date of this AD, whichever is first, will provide an acceptable level of safety and is an appropriate interval of time wherein the required actions can be accomplished during scheduled maintenance intervals for the majority of affected operators. However, according to the provisions of paragraph (b) of this AD, we may approve requests to adjust the compliance time if the request includes data that justify that a different compliance time would provide an acceptable level of safety. No change to the AD is made in this regard.

Request To Delay Issuance of the Proposed AD

One commenter states that it previously elected not to do the actions required by the proposed AD on affected airplanes (reference Service Bulletin A320-28-1087, Revision 02). This was because the Direction Générale de l'Aviation Civile (DGAC), which is the airworthiness authority for France, found the Special Federal Aviation Regulation No. 88 ("SFAR 88," Amendment 21-78, and subsequent Amendments 21-82 and 21-83) compliance solution proposal submitted by Airbus to be

sufficient for compliance with French airworthiness directive 2002-220(B) R1, dated October 15, 2003; although further discussions with the FAA and the DGAC were necessary. These discussions were expected to include the possibility of a requirement to install transient suppression units. Correspondence between the commenter and Airbus confirmed that, in the event that transient suppression units were specified in future rulemaking, the fused adapter/connection installation specified in the service bulletin would be revised. The commenter adds that, according to its cost model, the proposed AD would cost over $500,000 for its fleet. The commenter objects to spending the money if the solution is only interim, with introduction of transient suppression units to follow. The commenter strongly encourages a permanent solution to be introduced and regulated, and is not aware of any in-service data that would suggest that airplane safety could be compromised by delaying the interim solution until introduction of a permanent solution.

We do not agree with the commenter that an alternate solution is necessary, as the modification required by the proposed AD is not an interim action. We have examined the underlying safety issues involved in fuel tank explosions on several transport airplanes. As a result of those findings, we issued a regulation titled "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements." In addition to new airworthiness standards for transport airplanes and new maintenance requirements, this rule included SFAR No. 88. Among other actions, SFAR 88 requires certain type design holders to perform design reviews, and to develop design changes and maintenance procedures if necessary. We intend to adopt ADs to mandate any changes found necessary to address unsafe conditions identified during these reviews. Based on this process, we have determined that the modification required by this AD is necessary to address the identified unsafe condition.

Request To Clarify Summary Section

One commenter states that the Summary section of the proposed AD has significant inaccuracies due to the assimilation of two independent unsafe conditions, as identified in the referenced French airworthiness directive. The unsafe conditions require mandatory action, which is achieved by applying the two service bulletins referenced in the proposed AD. The commenter notes that the reason there are two service bulletins, and only one French airworthiness directive, is to minimize the cost impact on the three airplanes requiring correction of both unsafe conditions.

Additionally, the commenter states that the Summary section does not properly distinguish between additional center tanks (ACTs) and center wing tanks, which could lead to misinterpretation of any corrective action necessary. The commenter notes that Airbus Service Bulletin A320-28-1086, Revision 01, dated October 23, 2002 (cited in the proposed AD as an appropriate source of service information for accomplishment of certain actions), affects the ACTs on the three airplanes specified above only. The commenter adds that the identified modifications reposition the high-level sensors to ensure there is a minimum of two percent expansion space in the applicable ACT, and correct a non-compliance to Joint Aviation Regulation (JAR) 25.969. This non-compliance issue could result in fuel overflowing from the ACT to the left wing surge tank in the event of thermal expansion of the fuel in the ACT. The commenter also adds that the bracket that the high-level sensor is attached to, not the high-level sensor, is the part that has been improved.

The commenter also states that Airbus Service Bulletin A320-28-1087, Revision 02, dated June 10, 2003 (cited in the proposed AD as an appropriate source of service information for accomplishment of certain actions), affects all fuel tanks (all wing tanks and all ACTs), on the affected airplanes. The modification identified is to install fuses in the fuel quantity indicating (FQI) harnesses at or near the fuel tank walls, which corrects a non-compliance with JAR 25.981. This non-compliance issue could result in the ignition of flammable fuel vapors in a fuel tank in the event of a short circuit between the FQI wiring and an unprotected 28-volt supply.

In conclusion, the commenter states that the Summary section should clearly distinguish between these two unsafe conditions and should provide certain wording to more clearly define the two unsafe conditions.

We agree with the commenter and have changed the applicable sections in this AD, for clarification, to separate the two unsafe conditions.

Request To Change Paragraph (a) of This AD

In following up on his request to distinguish the two unsafe conditions, the commenter requests the following changes, which would include a new paragraph (b):

"(a) Within 4,000 flight hours or 30 months after the effective date of this AD, whichever is first: Do the applicable actions specified in paragraph (a)(1) of this AD. Accomplishment of the modification before the effective date of this AD per Airbus Service Bulletin A320-28-1087, dated July 17, 2001, or Revision 01, dated March 3, 2003; is acceptable for compliance with the corresponding action specified in paragraph (a)(1) of this AD.

(1) For airplanes defined in Airbus Service Bulletin A320-28-1087, Revision 02, dated June 10, 2003: Modify the wiring of the fuel quantity indicating probes of all the fuel tanks by doing all the actions specified in paragraphs 3.A. through 3.D. (including operational testing and any applicable repair) of the Accomplishment Instructions of the service bulletin. Any applicable repair must be done before further flight.

(b) Within 4,000 flight hours or 30 months after the effective date of this AD, whichever is first: Do the applicable actions specified in paragraph (b)(1) of this AD. Accomplishment of the replacement before the effective date of this AD per Airbus Service Bulletin A320-28-1086, dated November 30, 1999; as applicable; is considered acceptable for compliance with the corresponding action specified in paragraph (b)(1) of this AD.

(1) For airplanes defined in Airbus Service Bulletin A320-28-1086, Revision 01, dated October 23, 2002: Prior to or concurrent with accomplishment of paragraph (a)(1) of this AD, replace the high-level sensors of the additional center fuel tanks by doing all the actions specified in paragraphs 3.A through 3.D. (including operational testing and any applicable repair) of the Accomplishment Instructions of the service bulletin. Do the actions per the service bulletin. Any applicable repair must be done before further flight." The commenter provided no justification for the requested changes.

After reviewing the commenter's suggested changes to paragraph (a) of the proposed AD, we find that specifying "all the fuel tanks" instead of "the center and wing fuel tanks," is the only significant change. We also find that moving the service bulletin references around, as suggested by the commenter, does not clarify the requirements of that paragraph. Therefore, we have changed the wording in paragraph (a)(1) of this AD to specify "all the fuel tanks," for clarification; we made no further changes to paragraph (a) of this AD.

Request To Clarify Certain Sections in the Preamble

The same commenter reiterates certain wording regarding compliance with JAR 25.989, as specified in the Discussion section of the proposed AD, and notes that the wording is incorrect. The commenter states that the referenced testing is specific to some ACTs that can be fitted only to Model A319 series airplanes with Airbus Modification 28238 installed, and does not relate to other ACTs fitted to Models A319 and A320 series airplanes, or to center (wing) tanks. The commenter adds that the correct reference is JAR 25.969, not 25.989. The commenter notes that the high-level sensor is not improved and has no regulatory deficiency, and adds that it is the bracket that the sensor is attached to that is improved to provide the required expansion space. In addition, the commenter states that there is no connection between changing the high-level sensor position and the overheating of the FQI fuel probes in the event of an external 28-volt short circuit to the FQI fuel probe wiring. The commenter adds that there is no risk of the high-level sensor overheating in the event of an external 28-volt short circuit to its wiring.

The commenter also states that there is no risk of fuel spillage resulting from inadequate expansion space, which could result in fuel vapors or fuel contacting an ignition source, and/or

consequent fire/explosion in the center fuel tank. Any fuel spillage will be contained within the fuel vent system until the left wing surge tank is overfilled and subsequent limited fuel spillage from the surge tank through a flame arrestor could occur. The commenter adds that in the event of fuel spillage from the surge tank, and in the presence of an ignition source on the ground, a ground fire could be ignited. In the event of a ground fire, the flame arrestor installed for this purpose will eventually protect the fuel tank.

The commenter notes that the section titled ADDRESSES incorrectly identifies the airplane manufacturer as "Airbus Industrie." The airplane manufacturer should be identified as "Airbus."

The same commenter states that the Explanation of Relevant Service Information section in the preamble of the proposed AD is unclear in identifying which tanks apply to Service Bulletin A320-28-1087, Revision 02. The commenter states that the text should read, "Airbus has issued Service Bulletin A320-28-1087, Revision 02, which describes procedures for modification of the wiring of the FQI probes of all fuel tanks." The modification includes the following:

- Installation of fused plug connectors for the FQI probes of the wing tanks; and
- Installation of fused adapters between the external wiring harness and the in-tank wiring of the connectors on the ACT and center wing fuel tank walls.

The commenter notes that the term "center tank" is imprecise, as it could be interpreted to mean the center wing tank and not the ACT. This could lead to the exclusion of necessary corrective action for some fuel tanks. The fact that the modification is applicable to all fuel tanks is explicitly described by using the word "all."

We acknowledge and agree with the commenter's remarks on the preamble of the proposed AD; however, most of the sections referred to are not restated in this final rule. The name of the airplane manufacturer specified in the "ADDRESSES" section has been changed to Airbus. No other change to the AD is made in this regard.

Inadequate Technical Information Provided in the Service Bulletins

One commenter states that it is apparent that the information in the service bulletins lacks adequate technical detail for the commenter to form an opinion relative to the content. The commenter adds that Service Bulletin A320-28-1087 specifies adding fused connectors/adapters to protect the fuel gauging lines from hot shorts to 28 volt direct current that enter the fuel tanks. However, there is no information regarding compliance with Advisory Circular (AC) 25.981, which provides guidance for the overall safe design of fuel systems under certain conditions. The commenter notes that compliance with the AC may require a different design approach, in which case issuance of the proposed AD, although improving the level of safety, would be premature and would cause an unnecessary financial burden for operators. The commenter is unable to render a sound technical opinion as to the accuracy of the proposed AD, due to insufficient data.

We appreciate the commenter's concerns; however, it is not standard practice to provide technical details for design changes in service bulletins. The modification required by this AD is intended to prevent excessive currents from entering the FQI probes. Investigations have shown that a short of 28-volt direct current to the probes could cause certain parts of the probe to heat up to a temperature in excess of 200 degrees centigrade. Additionally, all FQI probe wiring installed on Model A319 series airplanes is co-routed with 28-volt direct current. The service bulletin was issued to provide procedures to modify the airplane to the approved type design. We do not agree that this AD is premature. In this case, we find that to withdraw this AD and initiate new proposed rulemaking (providing for public opportunity to comment) would significantly delay the rulemaking process and would be inappropriate in light of the identified unsafe condition. We have determined that issuance of this AD is appropriate and warranted.

Request To Revise Cost Impact Section

One commenter states that there are presently no airplanes registered in the U.S. for which Service Bulletin A320-28-1086 applies (Models A319-115 and A319-133 series airplanes). The commenter requests that the Cost Impact section of the proposed AD be revised to provide, for future imported airplanes, accomplishment of the proposed actions through a Certificate of Airworthiness.

We do not agree to provide for accomplishment of the proposed actions through a Certificate of Airworthiness for future imported Models A319-115 and A319-133 series airplanes. We do agree that those airplanes are not U.S.-registered; therefore, we have added a new paragraph to the Cost Impact section to provide the estimated costs for those airplanes should the airplanes be imported and placed on the U.S. Register in the future.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

We estimate that 468 Model A319-111, -112, -113, -114, -131, and -132 and Model A320 series airplanes of U.S. registry will be affected by this AD.

It will take between 10 and 22 work hours per airplane to accomplish the modification, at an average labor rate of $65 per work hour. Required parts will cost between $670 and $5,750 per airplane. Based on these figures, the cost impact of the modification required by this AD on U.S. operators is estimated to be between $617,760 and $3,360,240, or between $1,320 and $7,180 per airplane.

If an operator is required to replace the high-level sensors, it will take about 80 work hours, at an average labor rate of $65 per work hour. Required parts are free of charge. Based on these figures, the cost impact of the replacement required by this AD is estimated to be $5,200 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Currently, there are no affected A319-115 and A319-133 series airplanes on the U.S. Register. However, if an affected airplane is imported and placed on the U.S. Register in the future, the required modification would take between 10 and 22 work hours per airplane, at an average labor rate of $65 per work hour. Required parts will cost between $670 and $5,750 per airplane. Based on these figures, we estimate the cost of this AD to be between $1,320 and $7,180 per airplane.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies

and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

2004-23-04 Airbus: Amendment 39-13859. Docket 2002-NM-153AD.

Applicability: Model A319 and A320 series airplanes, certificated in any category; as listed in Airbus Service Bulletin A320-28-1087, Revision 02, dated June 10, 2003; and Airbus Service Bulletin A320-28-1086, Revision 01, dated October 23, 2002.

Compliance: Required as indicated, unless accomplished previously.

To prevent overheating of the fuel probes due to a short circuit, and fuel leakage due to inadequate space for thermal expansion within the additional center tanks, which could result in fuel vapors or fuel contacting an ignition source, accomplish the following:

Modification/Replacement

(a) Within 4,000 flight hours or 30 months after the effective date of this AD, whichever is first: Do the applicable actions specified in paragraphs (a)(1) and (a)(2) of this AD. Accomplishment of the modification before the effective date of this AD per Airbus Service Bulletin A320-28-1087, dated July 17, 2001; or Revision 01, dated March 3, 2003; or accomplishment of the replacement before the effective date of this AD per Airbus Service Bulletin A320-28-1086, dated November 30, 1999; as applicable; is considered acceptable for compliance with the corresponding action specified in paragraph (a)(1) or (a)(2) of this AD.

(1) For airplanes defined in Airbus Service Bulletin A320-28-1087, Revision 02, dated June 10, 2003: Modify the wiring of the fuel quantity indicating probes of all the fuel tanks by doing all the actions specified in paragraphs 3.A. through 3.D. (including operational testing and any applicable repair) of the Accomplishment Instructions of the service bulletin. Do the actions per the service bulletin. Any applicable repair must be done before further flight.

(2) For airplanes defined in Airbus Service Bulletin A320-28-1086, Revision 01, dated October 23, 2002: Prior to or concurrent with accomplishment of paragraph (a)(1) of this AD, replace the high-level sensors of the additional center fuel tanks by doing all the actions specified in paragraphs 3.A through 3.D. (including operational testing and any applicable repair) of the Accomplishment Instructions of the service bulletin. Do the actions per the service bulletin. Any applicable repair must be done before further flight.

Alternative Methods of Compliance

(b) In accordance with 14 CFR 39.19, the Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, is authorized to approve alternative methods of compliance for this AD.

Incorporation by Reference

(c) Unless otherwise specified in this AD, the actions shall be done in accordance with Airbus Service Bulletin A320-28-1086, Revision 01, dated October 23, 2002; or Airbus Service Bulletin A320-28-1087, Revision 02, dated June 10, 2003; as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For copies, contact Airbus, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France. Inspect copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

Note 1: The subject of this AD is addressed in French airworthiness directive 2002-220(B) R1, dated October 15, 2003.

Effective Date

(d) This amendment becomes effective on December 20, 2004.

Issued in Renton, Washington, on November 1, 2004.

Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 04-24933 Filed 11-12-04; 8:45 am]
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